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ABSTRACT

In view of the fact that 13% of the 9, 13, and 17-year-old students in the United States have been found to be functionally illiterate in a national study, this booklet was produced by the Educational Testing Service (ETS) to review efforts that have been undertaken to strengthen students' command of reading skills. Among the topics discussed are the following: Right to Read programs, aimed at adults as well as children; compensatory programs and their effectiveness; the comparative values of various teaching techniques, such as independent seatwork and small group teaching in the second grade and teacher-pupil interaction in the fifth grade; how children learn to read, including reliance on phoneme-grapheme correspondence and the use of contextual clues, as well as shifting between these techniques; the basic skills movement, which in most states has resulted in the setting of a minimum standard of literacy competency for the awarding of a high school diploma; and the current situation in teaching for literacy in the United States. (DF)

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FOCUS 4

1978

Learning to Read

Educational Testing Service

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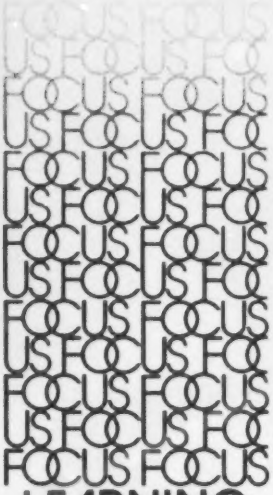

LEARNING TO READ

FOCUS 4 • 1978 • Educational Testing Service

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EDITOR'S NOTE

Each issue in the *FOCUS* series of occasional papers discusses a critical aspect of education today and the work Educational Testing Service is doing to help cope with it. Most widely known for standardized tests, ETS is also the nation's largest nonprofit educational research organization. Its 2,000 staffers apply the tools of the social sciences to the problems of minority students, writing ability, access to higher education, vocational education, professional self-assessment, and a host of other areas that demand attention. *FOCUS* 4 describes efforts to strengthen children's command of a skill fundamental to success in school and in life—reading. —*Arthur Bishop*

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THE DIMENSIONS OF THE PROBLEM

In a few short years in elementary school, American children are expected to master one of the most crucial skills of their lives—a mental process so complex that no one knows all that it involves. They must learn to read.

Learning to read means acquiring two highly abstract skills: the ability to decode hundreds of written symbols and countless combinations of those symbols while relating them to the sounds of speech (identifying the printed word), and the ability to derive meaning from the decoded symbols (understanding the message the words convey).

Most children succeed in acquiring these complex techniques well enough to function in a society that depends heavily on the printed word. Yet not every child does. The U.S. Office of Education has estimated that between 18 and 23 million adults cannot read well enough to cope with everyday living.

The National Assessment of Educational Progress (NAEP)—which periodically samples the nation's 9, 13, and 17-year-olds to see how well they can read, write, and compute—reported in the spring of 1977 that 13 percent

of 17-year-olds were unable to comprehend such simple materials as street signs, store coupons, telephone directories, or driver's license tests. They were, in short, functionally illiterate. Fully half of them could not read materials intended for college freshmen.

Slipping Test Scores

Now can college freshmen read as well today as they could a decade or so ago. Verbal scores on the Scholastic Aptitude Test (SAT), which reflect reading comprehension as well as word usage, grammar, reasoning, and other aspects of verbal ability, had declined 49 points (on a 200 to 800 scale) between 1963 and 1977.

Other facts show further cause for concern. Elementary and secondary school students' scores on standardized achievement tests in reading (and other subjects) have been declining for over a decade, although the slippage has stopped for children in grades 1 to 3 in the past few years. Apparently children do well at acquiring the decoding skills taught in the first three grades, but they begin to have difficulty understanding when the reading materials become more sophisticated in the higher grades.

Federal and State Programs

The extent of the nation's concern about the reading problem is reflected in the intensive programs that federal and state agencies have established to help local school districts deal with it.

Since the late '60s, the federal government has been granting more than a billion dollars a year for compensatory education—primarily reading and arithmetic. Title I, the largest of the programs authorized by the Elementary and Secondary Education Act of 1965, is aimed at improving reading and math skills of poverty-level children. Title III grants funds to develop innovative educational projects, and Title IV is explicitly for laboratory projects.

In addition, dozens of states fund their own compensatory programs. Since the early '70s, for example, Michigan has been allocating $22.5 million each year for compensatory programs, primarily in reading, over and above the usual allocations to school districts. It has also been receiving some $80 million per year in Title I funds for compensatory education.

RIGHT TO READ

Although the nation has been conscious of the reading problem at least since the mid-'50s when Rudolph Flesch published *Why Johnny Can't Read,* it was not until 1969 that the concept of a unified, national attack on reading deficiencies began to take shape in Washington. In that year, the late James E. Allen Jr., then U.S. Commissioner of Education, delivered a speech to the National Association of State Boards of Education that helped launch in 1970

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the National Right to Read effort "to ensure that in the next decade, no American shall be denied a full and productive life because of an inability to read."

For its first five years, the National Right to Read effort was a stepchild in the federal educational family, existing (as an activity of the Cooperative Research Act) on discretionary funds allocated by the Commissioner of Education. Today, Right to Read administers the National Reading Improvement Program, Title VII, which Congress passed in 1975—the first Congressional program designed exclusively to alleviate the nation's reading problem.

Comprehensive Efforts

Through this program, Right to Read is administering grants to state and local agencies for about 150 preschool and elementary reading projects throughout the nation.

But unlike most federal education programs, which are aimed exclusively at children, Right to Read also funds programs designed to help adults. It is supplying funds to establish and strengthen the political and educational leadership in each state that will result in well-coordinated programs to assess reading needs, develop inservice training programs for reading teachers, provide technical assistance to state and local agencies, and disseminate information about reading to local reading projects.

Part of the millions being allocated through the Reading Improvement Program also supports Right to Read Academies—storefront and other learning centers run by volunteers for people over 16 who are not reached by other programs. Finally, Right to Read is granting funds to develop and carry out innovative projects that show promise of having a substantial impact on the reading problem.

Little Existing Information

When the Right to Read program began, no one was sure what "functional literacy" meant. What do adults read and what must they be able to read to function? What specific skills do they need? For answers to questions like these, the U.S. Office of Education in 1970 asked Educational Testing Service to help analyze the situation.

An exhaustive study of the research on reading—itself the subject of more research than any other topic in education—was disappointing. In analyzing over 15,000 research reports produced between 1960 and 1970, ETS re-

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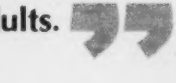

searchers found no information on the extent of functional literacy because there were no data on adults' performance of everyday reading tasks. Nor were there useful comparisons of different methods of teaching reading, since most reports of research studies in the past neglected to describe adequately the methods they used or to explain if they monitored what actually happened in the classroom.

Nor were there data on the specific training teachers received—most descriptions consisted merely of statements like: "one course in the teaching of reading required for elementary teachers, none for secondary teachers."

What Do People Read?

ETS researchers set out to find out what adults did read in the course of a day. They designed a 60-page questionnaire and had it administered to over 5,000 adults (16 or older) in interviews lasting over an hour.

The results of the survey, weighted to represent the reading habits of the civilian noninstitutional population, were illuminating. On the day before the interview, people spent an average of 1 hour and 46 minutes reading. But 6 percent read less than 5 minutes, 71 percent an hour or more, and 6 percent more than 8 hours—presumably those whose work involved a lot of reading.

The kinds of materials read were perhaps less startling. Almost three-quarters of the respondents (73 percent) spent an average of 35 minutes reading newspapers; 39 percent read magazines for an average of 33 minutes; about a third said they had read from a book the preceding day, averaging 47 minutes.

Where they were or what they were doing while reading was also interesting. Since those questioned were adults, only 5 percent were attending school, but these people read for an average of 69 minutes. About 54 percent read the mail at home for 5 minutes. Reading during other activities or at other sites—while shopping, com-

muting, working around the house—took little time, but most people rated that reading "very important." It consisted of such items as labels, schedules, signs, directions, recipes, and lists.

Socioeconomic Differences

Analyses by socioeconomic status (SES) were also revealing. The main difference in the kinds of magazines people read (general interest, news and editorial, homemaking) was that people with high SES backgrounds read news magazines; those with low did not. In book reading, high SES people most frequently read fiction; low SES respondents most frequently read the Bible. There was very little socioeconomic difference between those who read newspapers and those who did not.

Not more than 1 percent of those questioned said they had difficulty with any reading they did the previous day. Given the educational spread of the sample, it is obvious that people simply avoid materials they find difficult.

What Skills Do Readers Need?

In another of its Right to Read efforts, ETS set out to discover what reading skills people use in their daily lives, what reading errors they make, and why they make the errors. This information was used to create a test of functional literacy.

From the responses of the 5,000 adults surveyed about their daily reading habits, researchers devised 250 tasks. After a pretest, they were revised and winnowed down to 170 clustered around the kinds of materials people read. The 170 questions were then given to a nationwide sample in a house-to-house survey and the errors analyzed to try to ascertain the reasons for them. After further revision and tryouts with adults and seventh, tenth, and twelfth graders, researchers devised a test for ninth graders that indicates if they are functionally literate.

DO COMPENSATORY PROGRAMS WORK?

In 1971, the U.S. Office of Education asked ETS to assess the impact of one of its largest efforts—reading programs funded by Title I. Specifically, USOE wanted to obtain detailed descriptions of compensatory reading programs—financed by Title I or other sources, including state and local funds—in grades 2, 4, and 6; to determine how in-

> **". . . people with high SES backgrounds read news magazines; those with low did not."**

structional practices relate to improved performance; and to describe practices used in unusually effective programs.

The ETS researchers gathered general descriptions of the compensatory programs in 731 schools, evaluated 232 more closely, and studied intensively 34 judged by reading experts to be "noteworthy" (because they represented extremes of effectiveness) in a five-year investigation.

Information on the schools' reading programs was collected through questionnaires filled out by teachers and principals, reading achievement scores for all the children in the sample, and a measure of students' attitudes towards reading and themselves as readers.

In the final phase, ETS researchers visited 29 of the noteworthy schools to interview teachers and principals and observe instruction in the classroom in order to determine what characterized successful reading programs.

In its executive summary of the study, USOE said that data "seem to indicate that Title I and other similar compensatory education programs have at least reached the point where they are retarding or preventing the relative decline in achievement among disadvantaged children that would almost certainly occur in the absence of such programs."

Signs of Success

Researchers found that effective schools have certain characteristics in common and that the way students are grouped and the personal interaction in the classroom influence how well children learn to read.

The most important observable common characteristics were: Reading proficiency was made an important goal; effective leadership was committed to reading; careful attention was paid to basic skills; a relatively wide selection of instructional materials was available; and teachers discussed reading and exchanged ideas.

Some kinds of grouping were more effective than others. In grades 2 and 4, compensatory students in classes with other students gained more than those in classes composed entirely of compensatory students.

Personal interactions and the emotional atmosphere affect how much children learn, but each child reacts differently, so that what helps one child may hinder another. The variables that influence—for better or worse—how much children learn include: the level of student autonomy; the teacher's warmth, charisma, or leadership style; adult-centeredness of the classroom; the use of punitive classroom control; equality of teachers' attention to students; and the students' involvement with learning. Thus many intangibles that are difficult to assess without direct

> **. . . effective schools have certain characteristics in common . . .**

observation by trained observers nevertheless have a major impact on how well children learn to read.

The USOE summary of the study said the results "seem to indicate that in some outstanding cases fairly dramatic achievement gains beyond the 'prevention of decline' level have been achieved." And it concluded: "The data

from this study make it very clear that current compensatory education programs are no panacea. The task of narrowing the substantial achievement gap between the disadvantaged children of our society and their more advantaged peers remains a major piece of unfinished business . . . The data further suggest that through identification and dissemination of exemplary projects and through continued research into the development of other effective models and curricula, Title I and similar programs can be made even more effective."

WHAT TEACHING TECHNIQUES WORK?

While some researchers at ETS have been investigating compensatory reading programs and isolating the factors that make them effective, other researchers have been studying what teachers do in the classroom to identify teaching methods that are particularly effective.

In a detailed study conducted for the California Commission for Teacher Preparation and Licensing, ETS researchers found that, despite the popular notion that home and community have such a pervasive influence that teaching has little or no impact on how much children learn, what teachers do in the classroom does have a significant effect on how much children learn—at least in second- and fifth-grade reading and math.

The study found that children who read better at the start of the school year usually read better at the end. But large numbers of children with low fall scores improved much more than expected—and these children had teachers who used combinations of effective practices. The critical elements in these effective practices were direct instruction by the teacher and direct interaction between the teacher and the pupil.

The study, funded by the National Institute of Education, involved 2,500 students and 95 teachers (whose experience ranged from 3 to 31 years) in eight California school

districts (two urban, three suburban, and three rural). It investigated four aspects of reading: decoding, comprehension, application (using reading skills for everyday purposes), and attitude towards reading. The ETS staff developed tests to measure students' achievement in the three basic skills and questionnaires to measure their attitudes. The tests measured students' performance in meeting objectives specified by the State Department of Education.

During the 1973-74 academic year, ETS researchers tested the students in the fall and again in the spring. They spent more than 400 days testing and observing teachers, noting such things as teaching context (how the teacher

"Analyses . . . produced dramatic evidence that some practices lead to rapid learning . . ."

organized the class for instruction) and teaching activities (how the teacher gave instruction—questioning, explaining, discussing, independent study, and so on). The teachers were videotaped in their classrooms and were asked to keep diaries on the time they spent in direct instruction, the range of content they covered, the number of students they taught, and the kind and variety of material they used.

The teachers were also tested on their knowledge (of both subject matter and teaching methodology), aptitudes, and attitudes. Researchers also gathered information on teachers' expectations of their pupils' achievement and their own family backgrounds, education, teaching experience, aspirations, and preferences for teaching pupils with different ability levels and backgrounds.

This information allowed ETS researchers to examine the relationships between the teachers' personal characteristics and their performance in the classroom (how such characteristics influence how they perceive, organize, and interact with pupils, for example, and how their expecta-

tions of pupil performance influence their choices of teaching techniques to use with individual students).

Analyses of teachers' practice and pupils' achievement produced dramatic evidence that some practices lead to rapid learning—although this conclusion is tentative and needs further corroboration before being accepted as fact. And the practices that are effective in teaching second graders to read are not the same as those found effective for fifth graders.

In second-grade reading—because pupils must demonstrate or practice basic skills, and they must know when they are making errors—independent seatwork and small-group teaching will be most effective if they contain the following elements: 1) Each pupil has access to the teacher for instruction or correction of work; 2) when the teacher works with an individual or a small group, other pupils continue to work on their reading tasks; and 3) a variety of materials is used. Unmonitored seatwork and arrangements that keep pupils waiting for instruction are ineffective in second grade.

In fifth-grade reading, teaching practices that allow the teacher and pupils to interact as much as possible are more effective than more impersonal practices. Effective practices include conducting discussions, giving explanations, questioning and answering, and the like. The use of a variety of materials is not effective in the fifth grade, in contrast to the second grade, where it is. In the fifth grade, the interaction must be more sustained around fewer materials. The teacher thinks with the pupil about what he or she has read, what it means, and how it relates to other ideas.

HOW DO CHILDREN LEARN TO READ?

In all the thousands of research projects conducted in reading, one key element—the reader—has often been ignored. Surprisingly little is known about how children ac-

tually learn to read—the strategies they adopt and the methods they use to master a very complex task.

One of the problems, of course, is the difficulty in studying something so elusive as mental processes. ETS has studied some of them, however, in investigating the reading errors adults make as part of its work on the Right to Read program. Other ETS psychologists have been investigating the processes children use in learning to read.

Children Learn in Different Ways

The impetus behind one of these ETS efforts, a pilot study called the Collaborative Research Project on Reading, is the hypothesis that the ways a particular child learns to read are manifestations of his or her personal interests and styles and are, therefore, different from the ways other children learn. The long-range purpose of this line of research, now in its third year, is to describe the individual approaches children devise or adopt in learning to read in the course of normal, everyday classroom activities.

A second purpose is to develop a method of doing research in the classroom that draws upon the abilities of experienced teachers.

Children use a variety of methods to fathom the meaning underlying printed words and sentences. Some children attend to the correspondence between printed symbols and sounds to puzzle out the meaning of unfamiliar words. Others rely more on contextual clues and seem more concerned with meaning. Still other children, especially readers with more experience, shift from one method to the other whenever it is more effective.

To describe the mix of these—and other—strategies, ETS researchers are enlisting the help of classroom teachers, who are in a position to observe children closely in everyday settings. In the pilot phase of the Collaborative Project, researchers and teachers developed a plan to assist the teachers in observing the relevant aspects of one or

. . . ETS researchers are enlisting the help of classroom teachers . . .

two children's behavior and reporting their findings. Other observers (inservice teacher trainers or psychologists) also observe and interview the children from time to time.

The research teams also collect samples of each child's drawings and other classroom work. Particularly helpful are samples of children's reading recorded on tape.

Analyses of these multiple kinds of information yield evidence of a child's individual pattern of interests, attitudes, and ways of dealing with printed material.

The Ultimate Goal

In further phases of the research, data of these kinds will be collected on greater numbers of children and analyzed in an attempt to come up with descriptions of a variety of learning styles and cues teachers can use to recognize the methods a child is using. The ultimate aim is a new, more comprehensive understanding of the ways children learn to read. This understanding is, of course, basic to any methods teachers may use to help children learn to read.

THE BASIC SKILLS MOVEMENT

The national concern over the vast numbers of adults who cannot read simple materials and do simple computations needed in everyday life has spurred interest in basic skills. Educators, government officials, taxpayers, employers, and others, dismayed that many high school graduates do not have the skills to cope effectively with the routine demands of daily life, have been calling for a change in requirements for graduation and sometimes promotion from one grade to the next. Simply warming a seat in high school for four years is not enough, they maintain. A diploma, they

argue, should indicate that its holder can read, write, and handle simple math well enough to be self-sufficient.

Many states and local school districts have responded by mandating tests of basic skills that students must pass to earn a diploma. Some specifics on a few existing state and local programs:

Oregon has one of the most extensive programs. Beginning with the 1977-78 academic year, students must demonstrate competence in 10 areas to earn high school diplomas. Besides reading and math, they must meet locally adopted standards in areas as diverse as citizenship, highway safety, and environment.

Arizona has mandated that children must be able to read on a sixth-grade level to be graduated from elementary school and on a ninth-grade level to earn a high school diploma.

In California, school districts must establish local standards of proficiency in basic skills by June 1978, and students must meet these standards to receive a diploma after June 1980. The schools must assess students' progress at three prescribed points before they reach the twelfth grade. Specialists from ETS's Berkeley office participated in regional planning meetings during 1977.

The Denver school district, a pioneer in the basic skills movement, has been testing students in the basics since 1959. Denver gives tests of reading, grammar, spelling, and

"The schools must assess students' progress at three prescribed points..."

math to ninth graders, who must pass them all before earning high school diplomas. Students take remedial courses in any area they fail. When the program began, 15 percent of the students failed to pass all four tests by the time they completed twelfth grade. Now only 1-1/2 percent fail and receive "certificates of attendance" in lieu of diplomas.

The Philadelphia schools require students to pass a functional literacy test to graduate. The test asks them to interpret instructions on an aspirin bottle, define simple words, and do other simple tasks.

By the summer of 1977, all but four of the states (Arkansas, Montana, South Dakota, and Wyoming) had mandated, or were considering, some kind of test of minimum proficiency. Thousands of local school districts are moving in the same direction, either because of state dictates or on their own initiative.

In response to this movement, ETS has formed a consortium of over 300 school districts interested in assessing basic skills. Relying heavily on the advice of a steering

"The Denver school district . . . has been testing students in the basics since 1959."

committee representing the members of the consortium, ETS developed the Basic Skills Assessment (BSA) program. It consists of tests in reading, writing, and mathematics for students in grades eight through 12. When given to eighth or ninth graders, the tests serve as an early-warning system. Repeated in subsequent years, they can track a student's progress in mastering the fundamentals.

The reading tests, which incorporate such activities as reading bus schedules and medicine-bottle labels, as well as doing more traditional academic tasks, were developed after months of consultations with teachers and administrators nationwide plus a survey of some 4,000 school districts to determine what their specific needs were. The tests were used in the nation's schools for the first time in the fall of 1977.

In addition to the test themselves, the BSA program offers participants a newsletter describing current developments in the program, regional meetings with educators

to discuss how to make effective use of the program, and inservice training materials for teachers and test administrators that explain how to establish standards and interpret and use test scores.

THE CURRENT SITUATION

Today the nation is not much closer to the goal that James E. Allen proposed in 1969—100 percent literacy by 1980. But there has been progress. The nation has recognized the situation, accepted it as a problem worth addressing, and approved spending funds on it. Educators and researchers are assessing the extent of the problem and devising ways to attack it directly—from basic research into the processes of learning to read, to evaluation of instructional programs, to examining teaching practices, to devising instructional programs that promise to be more effective.

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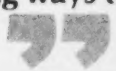

A literacy rate of 100 percent may be an unattainable goal. The current literacy rate of 87 percent is, however, among the highest in the world, and with a concerted national effort, it can be improved markedly. The nation is now making that effort.